STat 123 Lab 7

Eric Huber

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## Question 1:

### (1.a)  
df = read.csv("lab7\_data.csv")  
  
### (1.b)  
nums = as.matrix(df[,2:5])  
  
### (1.c)  
c3 = nums[,3]  
  
### (1.d)  
sc3 = 0   
n = length(c3)  
  
for (i in 1:n){  
 sc3 = sc3 + c3[i]  
 i = i+1  
}

## Question 2:

### (2.a)  
c2 = nums[,2]  
c4 = nums[,4]  
  
### (2.b)  
row\_sums = rep(0, length(c2))  
i = 0  
  
### (2.c)  
for(i in 1:length(c2)){  
 row\_sums[i] = c2[i]+c3[i]+c4[i]  
 i = i+1  
}  
  
### (2.d)  
row\_sums

## [1] 185 135 204 157 159 79 194 129 141 166 116 164

## Question 3:

### (3.a)  
nums = cbind(nums,rep(0, length(nums[,1])))  
  
### (3.b)  
i = 1  
n = length(nums[,1])  
  
for(i in 1:n){  
nums[i,5] = nums[i,1]+nums[i,2]+nums[i,3]+nums[i,4]  
 i = i+1  
}  
  
### (3.c)  
nums

## A B C D   
## [1,] 46 37 58 90 231  
## [2,] 16 11 91 33 151  
## [3,] 60 75 41 88 264  
## [4,] 57 71 12 74 214  
## [5,] 74 99 15 45 233  
## [6,] 12 4 6 69 91  
## [7,] 84 88 71 35 278  
## [8,] 75 5 60 64 204  
## [9,] 49 63 1 77 190  
## [10,] 31 78 76 12 197  
## [11,] 85 40 37 39 201  
## [12,] 86 90 28 46 250

## Question 4:

## (4.a)  
nums = cbind(nums,rep(0, length(nums[,1])))  
  
## (4.b)  
numscopy = nums  
nums[,6] = apply(nums[,1:5], 1 ,sum)  
  
## (4.c)  
nums

## A B C D   
## [1,] 46 37 58 90 231 462  
## [2,] 16 11 91 33 151 302  
## [3,] 60 75 41 88 264 528  
## [4,] 57 71 12 74 214 428  
## [5,] 74 99 15 45 233 466  
## [6,] 12 4 6 69 91 182  
## [7,] 84 88 71 35 278 556  
## [8,] 75 5 60 64 204 408  
## [9,] 49 63 1 77 190 380  
## [10,] 31 78 76 12 197 394  
## [11,] 85 40 37 39 201 402  
## [12,] 86 90 28 46 250 500

## Bonus

## 1  
nums = rbind(nums,rep(0, length(nums[1,])))  
  
## 2  
nums[13,] = apply(nums[1:12,], 2, sum)  
  
## 3   
nums

## A B C D   
## [1,] 46 37 58 90 231 462  
## [2,] 16 11 91 33 151 302  
## [3,] 60 75 41 88 264 528  
## [4,] 57 71 12 74 214 428  
## [5,] 74 99 15 45 233 466  
## [6,] 12 4 6 69 91 182  
## [7,] 84 88 71 35 278 556  
## [8,] 75 5 60 64 204 408  
## [9,] 49 63 1 77 190 380  
## [10,] 31 78 76 12 197 394  
## [11,] 85 40 37 39 201 402  
## [12,] 86 90 28 46 250 500  
## [13,] 675 661 496 672 2504 5008